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REMARKS

Claims 1-27 are currently pending in the subject application and are presently under consideration. Claim 27 has been amended herein. A marked-up version of all pending claims is found at pages 2-7 of this Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Rejection of Claim 27 Under 35 U.S.C. § 102(b)**

Claim 27 stands rejected under 35 U.S.C. §102(b) as being anticipated by McCarthy (U.S. 4,181,201). This rejection should be withdrawn for at least the following reasons. Independent claim 27 has been amended herein to its narrower, original form. Specifically, claim 27 has been amended to specify "lever means" and "cam means." Because claim 27 was rejected under 35 U.S.C. §102(b) only after amendment in the previous Reply, it is believed that amendment of claim 27 back to its narrower, original form will remove the grounds for this rejection.

Therefore, withdrawal of this rejection is respectfully requested.

**II. Rejection of Claims 1-27 Under 35 U.S.C. § 103(a)**

Claims 1-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Marshall *et al.* (U.S. 5,685,398) in view of McCarthy (U.S. 4,181,201). Withdrawal of this rejection is respectfully requested for at least the following reasons. Neither Marshall *et al.* nor McCarthy, alone or in combination, teach or suggest each and every limitation set forth in the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) *must teach or suggest all the claim*

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*limitations. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. See In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).*

The present invention relates generally to brake motors and in particular to systems and methods of using a manual brake release mechanism. Independent claim 1 recites "...a manual brake release, comprising: a field cup adapted to support an electromagnetic coil; an *armature plate coupled to the field cup*; a stationary plate coupled to the armature plate; a friction disk disposed between the armature plate and the stationary plate; a compression spring disposed between the field cup and the armature plate, the compression spring being operable to hold the armature plate and the friction disk against the stationary plate; and a *lever and cam assembly coupled to the armature plate and the field cup*, the lever and cam assembly being operable to separate the armature plate from the friction disk." Independent claims 11, 21, and 27 recite similar features to those of claim 1. The claimed invention *directly* couples a rotary cam to a lever (See Figure 5), which then *directly acts upon the armature plate and field cup to which it is coupled*. Turning the camshaft *directly* results in movement of the cam and the top portion of the lever toward the friction disk, which in turn forces the bottom portion of the lever to move in an opposite direction, away from the friction disk. The cam itself is mounted on the lever (see, e.g., Figure 5), so that when the handle is turned, the entire lever/cam assembly is tilted (see, e.g., Figures 6 and 7). Because the bottom portion of the lever is directly attached to the armature plate/field cup assembly, the armature plate and field cup are also pulled away from the friction disk, permitting free rotation of the friction disk and the axis to which it is attached. This element of the present invention is advantageous in that it requires fewer moving parts than the McCarthy system while providing a high mechanical advantage in a compact space. Neither Marshall *et al.* nor McCarthy, alone or in combination, teach or suggest such features of applicants' claimed invention.

Marshall *et al.* teaches an *externally mounted lever*, which, when moved in either a forward or rearward direction, disengages an armature from a friction disc. The Marshall system fails to teach achieving a high mechanical advantage in a compact space.

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"A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)

As stated in the Reply to the previous Office Action, Marshall *et al.* teaches away from an element that provides high mechanical advantage in a compact space. As stated by the Examiner in the Office Action dated March 13, 2003, "[t]he handle of Marshall has a mechanical advantage due to its length. The *longer it is the more advantage it has.*" The Examiner concedes that Marshall *et al.* fails to teach or suggest using a cam to actuate the lever device, and relies on McCarthy to teach using a cam to actuate a lever in order to disengage a motor brake. Furthermore, in the Final Office Action, the Examiner admits that Marshall *et al.* teaches away from a system having a high mechanical advantage in a compact space, and further states that teaching away from such aspect of McCarthy is the reason for making a §103 rejection instead of a §102 rejection. Applicants' representative respectfully submits that this is a non sequitur argument, because a reference that teaches away from another reference may not be combined therewith to form the basis of a 35 U.S.C. §103 rejection. (See, e.g., *In Re Grasselli*, 713 F.2d 731, 218 USPQ 769, 779, Fed. Cir. 1983; "It is improper to combine references where the references teach away from their combination.")

Furthermore, McCarthy fails to overcome the deficiencies of Marshall *et al.* with respect to the subject claims. McCarthy is directed toward providing mechanical advantage in a compact space. See, e.g. column 5, lines 9-15 and column 6, lines 21-31, discussing the advantages of smaller and fewer parts associated with achieving mechanical advantage. The McCarthy structure involves a cam engaging latch arm 88 coupled to a handle 92. To manually release the brake, the handle must be turned 90°, such that the latch arm 88 engages with a U-shaped cam portion 64 and pivots the cam portion 64 and a supporting lever 24 to release a brake shoe 46 from a frictional braking engagement with a brake disc 16. *The cam engaging latch arm 88 and handle 92 assembly is a separate structure from the cam portion 64 and the supporting lever 24*, as

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shown in Fig. 1 of McCarthy. Neither the cam engaging latch arm 88, the cam portion 64, nor the supporting lever 24 is coupled to an armature plate or a field cup. Moreover, the structure taught by McCarthy would be inoperable for separating an armature plate from a friction disk as the cam engaging latch arm 88 and supporting lever 24 assembly *would only be able to release one side of the armature plate from engagement with the friction disk*. The cam engaging latch arm 88 in combination with the handle 92 and the supporting lever 24 is only operable to release a brake shoe from engagement with a brake disc. Thus, McCarthy fails to disclose, teach or suggest a lever and cam assembly coupled to an armature plate and a field cup, the lever and cam assembly being operable to separate the armature plate from a friction disk, as required by claim 1 of the present invention.

Additionally, the claimed invention advantageously converts rotational motion into linear motion to release a brake using fewer parts than the McCarthy invention. Specifically, if the handle 92 and cam-engaging latch arm 88 are considered to be a cam, as asserted by the Examiner, then McCarthy requires *two* cams to effectuate the application of force to the lever (e.g., if the handle 92 and cam-engaging latch arm 88 combination is a cam, then the cam 60 is a second cam required for operation of the McCarthy system). Conversely, and as stated above, the claimed invention sets forth a single cam that is mounted directly on a lever, which releases a brake. Additionally, every time motion is translated from a linear to a rotational axis, or *vice versa*, energy is lost, resulting in a less efficient machine. Thus, the present invention is more efficient than the McCarthy system because it employs fewer translations of motion.

In order to establish a *prima facie* case of obviousness, the teaching or suggestion to make the claim modification *must be found in the cited art*, not based on the applicant's disclosure. *In re Vaech*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Furthermore, the mere fact that the reference can be modified does not render the modification obvious *unless the cited art also suggests the desirability of the modification*. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

There is no motivation to combine the references as suggested by the Examiner.

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Marshall fails to suggest the desirability of using a cam to actuate its external lever. Similarly, McCarthy fails to suggest any desirability whatsoever of coupling a lever and cam assembly to an armature plate and field cup to effect separation of the armature plate from a friction disk, let alone the desirability of modifying the lever to increase its length (which would require external mounting) in order to achieve increased mechanical advantage.

Finally, combining the references in the manner suggested by the Examiner would not result in the invention as claimed. The combination of the handle 92, cam-engaging latch arm 88, and cam 60 of McCarthy and the externally mounted handle 312 of Marshall *et al.* would result in a structure that, when the handle is manipulated, would turn the cam engaging latch arm, which would in turn push the lever. This is very different from the single-cam-internal-lever assembly of the claimed invention, which is a unit. Furthermore, because the cam and lever assembly is a unit, the cam of the present invention does not push on the lever effectuate release of a brake.

In view of at least the above, it is readily apparent that the combination of Marshall *et al.* and McCarthy does not make obvious the present invention as set forth in independent claims 1, 11, 21, and 27 (and claims 2-10, 12-20, and 22-26, which depend respectively therefrom). Therefore, this rejection should be withdrawn.

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**CONCLUSION**

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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